



U.S. Department
of Transportation

The Pennsylvania Turnpike Commission's Incident Management Team

January 1993

A Technology Sharing Reprint



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Introduction

The Pennsylvania Turnpike is a key transportation route within the state of Pennsylvania and is a vital link in the network of the eastern United States. The Turnpike is currently 505 miles in length with 46 Interchanges, 20 Maintenance Facilities, seven State Police Barracks and five tunnels.

Formation of the Incident Management Team

The Pennsylvania Turnpike Commission formed the Incident Management Team in September of 1988 with a small nucleus of State Police and Commission operational personnel. The Incident Management Team currently meets on a regular basis and has grown considerably over the years. Team meetings average 30 Committee members in attendance. The team reviews incidents that occur on the Turnpike and implements a wide variety of measures to improve incident management, some of which are outlined below. These initiatives are developed and implemented utilizing various subcommittees that report their findings to the Incident Management Team for disposition.

Incident Detection Methods

Call Boxes

The Commission has erected emergency call boxes along the entire Turnpike system. Call boxes are positioned approximately one mile apart on both sides of the roadway.

The boxes have buttons which transmit radio signals to the Commission's communications center. No voice communications are available. Each box has four buttons:

Service – Request for Authorized Service (tow truck)

Police – Request for State Police

Medical – Request for Ambulance

Accident – Request for Emergency Services

When a particular button is pushed, the Commission will dispatch the requested service. When the accident button is pushed, the Commission immediately dispatches the contracted fire company, ambulance service, and authorized service for that area, together with the State Police and the first responder from the assigned maintenance shed.

The total cost to the Commission for the purchase and installation of the call boxes was eight million dollars. The Commission's Communications Center receives an average of 1,300 call box calls every month.

***11 Cellular**

Motorists on the Turnpike may inform the Commission of emergencies through the Commission's **free** Emergency Cellular Telephone Service. This service was created by a cooperating effort of seven cellular carriers in Pennsylvania. Anyone with a cellular telephone can call *11 at no charge and reach the Commission's Communications Center for immediate emergency assistance. The cost is absorbed by the cellular telephone companies and the Commission as a public service designed to promote safety on the toll road. This system was introduced during the July 4th weekend in 1990. Calls for assistance or to report incidents are received directly in the Commission's Communications center 24 hours a day. This was the first such direct-dial cellular emergency service on any highway in the country. An average of 1,100 cellular *11 calls are received monthly.

Pike Watch – CB Radios

Pike Watch is a cooperative safety enforcement program of the Pennsylvania Turnpike Commission, Pennsylvania State Police and Yellow Freight Systems, Inc. Participating Yellow Freight drivers notify the Commission and the State Police of erratic or reckless drivers, accidents, disabled vehicles, and other emergency situations. Drivers contact the Commission's Communications Center, State Police patrols or Commission maintenance facilities directly via CB radio. In addition to Pike Watch calls, the CB radios located in maintenance facilities and in certain vehicles have proven to be successful in gathering initial data at an incident or in emergency situations.

Due to the success of this pilot program on the Turnpike, Yellow Freight and other trucking firms have expanded the program across Pennsylvania. This concept is also gaining popularity on a nationwide scale.

Communications Center

The Commission's Communications Center, located in Harrisburg, handles radio communications for Commission personnel, patrons, State Police, authorized services and emergency fire and ambulance services. The Communications Center is equipped with a computer aided dispatch system (CAD system). The system is designed to provide the Commission's radio operators with instantaneous access to the closest emergency services and to the State Police for any incident at any point on the Turnpike system. When a radio operator receives a call, he enters the reported location of the incident into the CAD System. The system responds immediately with all information needed to handle the situation. The Communications Center has a state police corporal on duty at all times.

The Communications Center handles approximately 400 calls and 1400 radio transmissions per day.

Contracted Response Agencies

Emergency Towing and Road Service

The Commission has 22 authorized service garages under contract for the provision of repairs, wrecking and towing services to motorists on the Pennsylvania Turnpike. Each garage is assigned a specific service area ranging from 19 miles to 36 miles in length on the main line of the turnpike and six miles to ten miles in length on Turnpike expressways. Garages are required to provide at least three modern recovery vehicles – two light duty vehicles of not less than one ton capacity and one heavy duty wrecker equipped to handle the heaviest trucks and motor vehicles. One of the light duty vehicles must be a rollback equipped with a winch and tow bar/hitch. The other light duty vehicles must be equipped with a boom, winch and wheel lift. Each garage is provided with three mobile radio units and one base station radio unit of a type specified and installed by the Commission, to enable the Communications Center to dispatch the vehicles via radio. The Commission pays the garages a retainer of \$300 per year.

Garages agree that no charge for towing, repairs or other services shall exceed competitive charges prevailing in their area. Garages are permitted to charge the following rates:

- 1. Road Service** – \$25.00 for service call which includes providing water or fuel, a battery jump, tire change, replacing any belts or hoses or the first 15 minutes spent toward providing service.
- 2. Towing** (vehicles up to 10,000 lbs.) – \$35.00 hook-up charge plus \$2.00 per mile with maximum charge of \$75.00.
- 3. Towing** (vehicles over 10,000 lbs.) – \$100.00 flat rate plus \$3.00 per mile with maximum charge of \$160.00.

Garages are required to respond to all dispatched calls and must arrive at the scene of a disabled vehicle within 30 minutes after the call is assigned. The

Commission agrees that it will not enter into any contract with another garage within an authorized service garage's assigned territory. However, the Commission reserves the right to call in additional service or equipment from any available source when it is determined that a garage under contract is unable to provide sufficient service or equipment. In addition, the garages agree that Turnpike patrons may procure their own services except in the case of an accident where the disabled vehicle is blocking the roadway.

Emergency Services

The Pennsylvania Turnpike Commission is the only highway agency in the state that contracts with fire and ambulance companies to provide emergency service on the roadway. These contracts accomplish two goals. First, they provide a means of compensation to the volunteer fire and emergency medical services in Pennsylvania, whose efforts too often go unnoticed. But most importantly, they enable the Commission to develop a better working relationship with the emergency service providers, improving the quality of emergency service provided to Turnpike travelers. The Commission spends over half a million dollars a year on emergency services in an effort to improve safety on the Turnpike.

Fire Services – The Pennsylvania Turnpike is currently contracted with 81 fire companies. All contracted fire companies are assigned specific coverage areas. The contracted companies receive annual retainers of \$500.00 and are compensated \$225.00 per call by the Turnpike Commission. The fire companies are reimbursed for the total cost of foam/wet water or other special extinguishing agents utilized during any incident on the Turnpike. The Commission also pays for damaged equipment to the extent that such damage is not covered by insurance.

Ambulance Services – The ambulance services are under the direction of the Joint Panel on Ambulance Services of the Turnpike. This group consists of

state health department officials, Commission representatives and regional emergency medical services coordinators. The Commission assigns the 55 contracted EMS providers specific territories and compensates the companies at \$100.00 per call with an annual retainer of \$500.00. The companies are also permitted to bill patrons directly.

Medical Helicopters – Certain critical and life-threatening situations require the dispatch of a medical helicopter. Commission personnel and state police, in addition to on-scene emergency medical and fire services, are permitted to request a medical helicopter. The Commission's Communications Center contacts the local county control to request this service according to pre-arranged procedures. The helicopter services are not under contract with the Commission.

Emergency Spill Response – The Commission contracts with private environmental companies to provide 24-hour emergency spill response services to the Turnpike. The contracted companies are required to provide sufficient resources and personnel to assess, control, contain and remediate hazardous materials spills. Contracted companies must be capable of managing incidents requiring up to EPA Level A protection. These companies are called to handle spills which are beyond the capabilities of Turnpike maintenance forces.

The Commission compensates the spill company for services rendered utilizing a pre-approved rate schedule. The Commission then attempts to recover its expenditures by billing the party responsible for the spill. Expenditures typically range from several thousand dollars for a minor incident to \$50,000 or more for a major spill.

On-scene maintenance supervisory personnel may request the dispatch of these companies through the communications center. By entering into these agreements, the Commission is assured of a timely and effective response to all hazardous materials incidents.

Specialized Equipment – Certain situations require the use of specialized equipment to expedite the clearing of the roadway. Cranes, roll-offs

and other equipment may be called out on an emergency basis upon the authorization of the Commission's Duty Officer. A list of various services is kept in the communications center CAD system.

Pennsylvania State Police and Turnpike Commission Response

Troop T of the Pennsylvania State Police, funded by the Pennsylvania Turnpike Commission, is assigned to the Turnpike and given the responsibility of controlling traffic and enforcing all laws of the Commonwealth of Pennsylvania.

The Pennsylvania State Police have the ultimate authority at all incidents on the Pennsylvania Turnpike, overseeing all agencies that respond on the Turnpike System. Members of the state police will act in the capacity of incident commander in the Incident Command System policy and procedures (see page 15). The state police are responsible for traffic management and are assisted by the Commission's maintenance department with traffic control, including the proper signing and traffic control devices.

The Commission's 20 maintenance facilities are equipped with first responder vehicles, with the exception of one location that provides ambulance service. Emergency response workers are scheduled 24 hours a day and are trained in CPR, advanced first aid, and hazardous materials recognition and identification. Some are certified as emergency medical technicians. They are responsible for attending to injured patients pending the arrival of outside medical assistance. They are also responsible for traffic control, spill containment and other related duties.

The Commission's maintenance department responds along with the state police to incidents that disrupt normal traffic flow. Maintenance department supervisors are responsible for taking appropriate actions to expedite the clearing of accident scenes, according to the following priorities:

1. Attend to the injured

2. Clear the backlog

3. Remove the debris

The on-scene maintenance supervisor, in cooperation with the Pennsylvania State Police, has the authority to take any action reasonably necessary to ensure patron safety and to effect a prompt clearing of the roadway. These efforts are coordinated under the structure of the Incident Command System.

The standard first responder vans are equipped with cellular phones, CB radios, Turnpike repeaters, and portable radios for communications. They also carry emergency medical supplies, a wide range of spill containment materials, fuel leak kits, incident command kits, polaroid cameras, helicopter landing lights, accident ahead signs, and various additional supplies and equipment.

In addition to the standard vans, there are five customized emergency response vehicles in use. These vehicles were purchased to improve incident response capabilities and to provide for better communications at the scene. These vehicles also respond to hazardous materials spills and other emergencies. In addition to the materials listed above, these units carry on-board diesel 3KW generators, 500-watt extend-a-lites, electric rewind reel cords, and portable explosion proof pumps. The vehicles are capable of carrying a larger supply of hazmat materials than the standard vans. These vehicles are also utilized as command posts and are readily identifiable for this purpose. A permanently mounted green light on the extended pole was installed on the units.

Motorist Information

Variable Message Signs

The Commission currently has two fixed variable message signs in operations. These are fiber optic computer controlled from the Commission's Communications Center. There are plans to install approximately eight

additional signs. Approximately 40 portable variable message signs are available for use on the entire Turnpike System.

Highway Advisory Radio

Highway advisory radios are located at the Lehigh Tunnel on the northeast extension of the Turnpike. The Commission has a permanently mounted AM Broadcast System to notify patrons of existing traffic conditions. The Commission's AM Broadcast System Subcommittee has recommended the purchase of portable AM broadcasting units.

Media Notification

The Commission notifies the media of traffic conditions via fax. The message is sent to traffic advisory services and radio and television stations, with updates as appropriate. The Commission also provides the same information to the 50 largest commercial trucking firms utilizing the Turnpike.

Portable Accident Ahead Signs

Portable "Accident Ahead" signs are carried in all first responder vehicles, maintenance foremen's trucks and some selected Pennsylvania State Police cars. These signs serve as an advance warning device and are erected by responding units, while en route to a reported incident. Signs are placed on the berm with a lit fusee in front of the sign for added visibility.

Alternate Routing Plans

The Commission's road closure procedure (a.k.a. Plan X) is the method by which the Commission in emergency situations, closes certain sections of the

Turnpike and re-routes traffic around these sections. The Commission has established pre-approved routes for both commercial and passenger vehicles. Personnel at affected interchanges distribute written re-routing information cards to exiting patrons. There are separate directions for commercial and passenger vehicles and the cards are color coded for east, west, north and south bound directions.

The Commission implements Plan X under any of the following circumstances: a) total directional road blockage (no access past the accident scene), which is expected to last for two hours or more; b) traffic backlogs from the accident in excess of five miles with no immediate expectation of improved conditions; or c) other situations which would merit road closure in the best judgment of on-scene Commission and Pennsylvania State Police personnel.

Improving Response Efforts

Emergency Response

The Commission recently executed new agreements with towing and fire services. The Commission has three separate committees for managing these services. The Authorized Service Subcommittee is responsible for contracted towing services; the Contracted Services Committee is responsible for the Commission's fire services, and the Joint Panel for Ambulance Services handles the Commission's EMS Services.

The Commission's Authorized Service Subcommittee is responsible for evaluating towing services contracts, and making the recommendations to the Incident Management Team and to the Commission to provide the most efficient and expeditious road service.

The fire services across the Turnpike were evaluated by the Commission's Contracted Services Committee for response time, equipment, mileage to access the Turnpike and other criteria. This was accomplished through questionnaires, site visits by Commission personnel to each company to verify equipment, and

meetings with current and prospective companies. The Contracted Services Committee based its final selection on a point system and submitted its recommendations to the Incident Management Team and the Commission for formal approval.

The Commission added new access points across the Turnpike system to enhance the response efforts of contracted emergency services. New access gates were installed at numerous locations by the Maintenance Department forces and by contractors as part of resurfacing contracts. Many of these new access locations were recommended by the emergency services themselves, as a measure to improve their response.

Communications

The Commission has provided Turnpike radios free of charge to contracted fire services, EMS providers and contracted towing services. When an incident occurs, all responding State Police, Commission units and emergency services are capable of communicating with each other during their response. This greatly improves response efforts as on-scene units relay pertinent data to incoming units regarding injuries, road conditions and the best method to approach the incident. To improve communications at the scene, the Commission has purchased hand-held portable radios with repeaters for the State Police and Commission units.

Dual Dispatch

The Commission has authorized the use of dual dispatch in selected areas for emergency fire, rescue, and EMS services responding to incidents on the Turnpike. The Commission has identified specific areas for this procedure where traffic is heavy, where there is an unusually long area between interchanges or crossovers, and where the exact location or direction of an incident has not been confirmed. In these instances, emergency units are

dispatched in both directions to ensure the quickest response to an incident. The first directional company to locate the incident will handle it, with the other units returning to their station. Dual dispatch has proven to be very successful in improving response times to incidents.

Reducing Road Closure Time

Equipment

The Maintenance Department has purchased five heavy duty highlifts to assist in clearing accident scenes. The standard front end loaders were having difficulty removing large debris from the travel lanes. These new heavy duty units are extremely successful in expediting the removal of debris. They are also beneficial in assisting authorized towing and in pushing large trailers or vehicles from the travel lanes.

State Police Accident Investigations

In an effort to expedite the removal of accident vehicles from the roadway, State Police now mark and photograph the position of the vehicles involved. All patrol cars carry surveyor's paint to mark the position of vehicles. First Responder vehicles carry polaroid cameras to enable the State Police to photograph the scene. The State Police may then direct the removal of the vehicles immediately. This quick method of marking the vehicles reduces the road closure time without impairing the ability of the State Police to thoroughly investigate the accident and determine its cause.

Serious accidents may require a State Police Accident Investigation Team to respond to the scene. When the Team arrives, it continues the investigation of the accident with the help of the markings and the photographs. By the prompt use of the paint and the camera, the original accident scene is preserved for investigations, without impeding the restoration of traffic flow.

Removal of Bodies from Roadway

On many highways, when an accident involves a fatality, the responding agencies will contact the local coroner, and leave the body intact in the position it was found until the coroner's arrival. This may cause lengthy and hazardous delays in clearing the accident scene, particularly when the roadway is blocked as a result. Several years ago, Commission attorneys researched state laws regarding body removal after discussions involving this problem at Incident Management Team meetings. Under Pennsylvania state law, when a body poses a safety hazard, it may be moved prior to the arrival of the coroner. The Commission immediately informed its personnel and the state police of this law. As a result, the state police now mark the locations and remove the bodies immediately, without waiting for the arrival of the coroner, to expedite clearing of the roadway and to prevent additional accidents.

A Traffic Control Procedure (PACE)

On a high-speed, high-volume roadway, due to construction, maintenance, or roadway emergencies, the need to stop traffic often arises. In an effort to minimize the danger involved in achieving this task, the Commission has developed a program that virtually eliminates the hazard of stopped traffic. In addition, the recovery time for expediting the normal flow of traffic is substantially reduced.

By using pace cars to adjust traffic flow, the Commission is able to obtain the necessary time needed to accomplish its goals. Anywhere from 1 to 15 minutes of road work time can be achieved through the use of this method. In the event that the job exceeds the time recommendations, the pace cars can simply reduce their speed or stop until the project is completed.

Slowing traffic to a speed of approximately 15 to 30 miles per hour in a 55-mile per hour speed zone from a predetermined, adjustable distance allows

the traffic in front of the pace cars adequate time to develop space between the two points. It is within this space that the needed work is performed.

There is a check vehicle at the job site or area, and its function is to make sure that any vehicles that may have been stopped on the shoulder between the two traffic control points do not pass the work areas. The Commission also places a vehicle at the rear of the pace cars, warning traffic of a possible slow down ahead.

Maintenance Spill Response Program

In 1988, the Commission developed an in-house maintenance spill program to address the large number of fuel spills at accident scenes. Prior to the development of the program, accident scenes were not being cleared quickly enough due to the uncertainty of personnel on the scene.

Previously, Commission personnel were not trained in containment and cleanup of fuel spills and did not possess the necessary materials. Many times, personnel would wait for a state environmental representative or someone from the trucking company involved in the accident to make a decision as to the method of cleanup and who was going to be responsible. These delays resulted in longer road closure time.

After discussion of this issue at Incident Management Team meetings, the Commission decided to resolve the problem by providing Turnpike maintenance personnel with the necessary materials and training to control, contain and completely clean up certain non-hazardous routine fuel spills. The Commission now routinely cleans up spills ranging from 10 gallons to 250 gallons without the assistance of an outside agency. To help with initiating this program, representatives from Pennsylvania's Department of Environmental Resources provided guidelines and were very supportive of the Commission's efforts. This fast and effective clean-up method by maintenance personnel has limited adverse environmental impacts from spills of environmentally sensitive materials. At a fuel spill, the maintenance forces will contain the spill and clean the roadway first to restore traffic flow. They will then complete the

remediation. A wide range of the latest technology in spill response materials is carried on the first responder units with additional materials available at the maintenance facilities. Fuel leak kits are stocked in each responder unit, which contain plug and dike putty, a rubber mallet, and an assortment of wooden plugs and wedges. These are used frequently to stop small tank leaks and leaking crossover lines.

Pre-Planning/Training

Duty Officer Assignments

The Turnpike Commission assigns a management level operational person on a weekly rotating basis, 24 hours a day, for duty officer tours. The duty officer is responsible for administering the operations of the Turnpike when incidents occur which impact upon the normal operation of the Turnpike System. The duty officers are trained in managing incidents and are provided with written guidelines to assist in various incidents. They are provided with a pager and portable cellular phone to ensure availability at all times. The duty officers also are involved in all Incident Management Team meetings and are required to provide a brief summary of the week's activities at the meetings.

Informational Meetings

The Commission's various subcommittees for emergency services and towing are responsible for conducting annual informational meetings with these services.

Dinner meetings are conducted in the evenings, across the state, for volunteer emergency service groups, and county dispatch centers for those areas. The authorized towing meetings are luncheon meetings and are conducted during normal working hours. These meetings have proven invaluable as a source for increasing awareness and improving overall

communications. At the meetings, Commission representatives discuss Turnpike accident and safety procedures.

Commission and State Police personnel are in attendance at the meetings to answer questions and discuss any operational or protocol problems. This form of communication has been advantageous in improving on-scene management and has enhanced response to the Turnpike System. In addition to regular meetings, it is sometimes necessary to meet to resolve or improve situations of immediate concern. The Commission has committee members available as contact people for the emergency services at all times. The emergency services are encouraged to notify a Commission representative of any problems, concerns or suggestions they may have.

Incident Command System

The Turnpike Commission has adopted the Incident Command System (ICS) as its structure to manage all incidents that occur on the system. As a joint venture, Commission representatives and state police assigned to the Turnpike are initiating a 16-hour ICS training program for Commission and State Police response personnel. The ICS system on the Turnpike is being implemented for utilization at all incidents, both large or small. As an initial step, the Commission has eliminated the ten-code radio system and now utilizes clear text or plain English for all transmissions. This step reduces the likelihood of miscommunications at accident scenes. The Commission is providing key operational ICS personnel with incident command field kits, containing command staff vests for State Police, maintenance, fire, rescue, and EMS command staff. Also included are field pocket guides, check-in sheets, and blank structure organizational forms to assist in documentation.

Traffic and Speed Enforcement Initiatives

State Police Aerial Reconnaissance Enforcement

In order to improve safety on the Turnpike, the Incident Management Team addressed the issue of speeding. At Incident Management Team meetings in 1988, the Team extensively discussed the need to reduce vehicle speed on the Turnpike. The Team ultimately recommended that the Commission purchase an airplane to permit the State Police to conduct aerial speed enforcement more frequently. The Commission's airplane has been flying since August 1989 as part of the State Police Aerial Reconnaissance Enforcement (SPARE) program. The plane is a fixed wing aircraft which flies at an altitude of 1,500 to 7,500 feet. The program has proven to be an extremely effective method of apprehending speeders, drunk drivers, and other vehicle code violators, due to the fact that, unlike conventional radar, the plane is very difficult to detect.

Prior to the Commission's purchase of the plane, the Turnpike's State Police troop had to share one plane with 17 other State Police troops across the state. Having a plane for exclusive use on the Turnpike has enabled the Commission to more effectively enforce the 55-m.p.h. speed limit. A monthly average of 250 speeding citations are issued from the SPARE program. State Police report that the average speed of violators caught through aerial surveillance is between 75 and 90 M.P.H.

Use of PTC Maintenance Vehicles

The Commission has instituted a program where the State Police use Commission maintenance vehicles to conduct radar speed enforcement. State Police Troopers will position a maintenance vehicle adjacent to the roadway and, posing as maintenance workers, conduct radar enforcement upon the

unsuspecting speed limit violators. The program has proven to be very successful in slowing motorists and enforcing the 55-m.p.h. speed limit.

Abandoned Vehicles

In 1988, the Incident Management Team noted that occasionally abandoned vehicles on the roadway shoulders or in wide areas were involved in accidents. Under state law, the vehicles could remain in place for weeks at a time while all the proper notifications were issued. After discussions with the Commission's Legal Department, the Incident Management Team agreed that the Commission should issue traffic regulations that amended the state law on this subject. As a result, abandoned vehicles are now only permitted to remain along the Turnpike for 24 hours. After that time, the State Police will order the removal of the vehicle and notify the owner accordingly. The State Police will immediately remove vehicles which impede traffic flow or otherwise create a traffic hazard.

By promptly removing abandoned vehicles, the Commission strives to eliminate some accidents and reduce the severity of others.

Additional Information

These are only some of the Pennsylvania Turnpike Commission's safety programs, as implemented by the Commission's Incident Management Team. If you would like additional information about Commission safety programs, please feel free to contact either **John A. Boschi**, Deputy Executive Director of Maintenance and Chairman of the Incident Management Team, or **Michael S. Kennedy**, Deputy Executive Director of Marketing for the Commission. Both Mr. Boschi and Mr. Kennedy may be reached at (717) 939-9551. You may also receive additional information by writing to Mr. Boschi or Mr. Kennedy in care of the Pennsylvania Turnpike Commission, P.O. Box 8531, Harrisburg, Pennsylvania 17105.

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DOT-T-93-23

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